

[CLAIMS]

(1) An attribute information providing server for providing one or more attributes from an attribute information database via a network, comprising:

means for receiving an indication to extract one or more attributes from attributes stored in the database, from a user device via the network;

means for registering, in the database, a virtual record which includes said one or more attributes extracted from the database in response to said indication from said user device;

means for providing a virtual ID as a key of said virtual record to said user device;

means for receiving a request with said virtual ID to read said virtual record, from an attribute information receiving apparatus via the network; and

means for providing said virtual record to said attribute information receiving apparatus.

(2) The attribute information providing server according to claim 1, wherein said means for receiving an indication enables only said user device to reference attributes of an operator of the user device, and wherein said means for receiving an indication allows the user device to copy an arbitrary attribute, and disables the user device to tamper an arbitrary attribute in case said means for receiving an indication enables the user device to extract said virtual record.

(3) The attribute information providing server according to claim 1, wherein said means for receiving a request does not know which virtual ID of the database is requested to read.

(4) An attribute information providing server comprising:

generation means for generating a virtual record which includes one or more attributes selected from attributes stored in a database;

storage means for storing said virtual record in association with a virtual ID for identifying said virtual record, in the database;

virtual ID providing means for providing said virtual ID to a user device via a network; and

virtual record providing means for providing, based on a request with said virtual ID from an attribute information receiving apparatus via the network, said virtual record to said attribute information receiving apparatus,

wherein said virtual record providing means provides said virtual record to said attribute information receiving apparatus, in a state where said virtual record providing means can not know which virtual ID has been requested from the database.

(5) The attribute information providing server according to claim 4, wherein said generation means generates a virtual record by extracting, by said user device, one or more attributes from the subscriber's attributes stored in the database.

(6) The attribute information providing server according to claim 4, wherein said virtual record providing means provides said virtual record to said attribute information receiving apparatus by using a 1-out-of-N OT (Oblivious Transfer) protocol.

(7) An attribute information providing server comprising:

a database for storing a customer record including one or more attributes of each customer;

a customer record display unit for, based on a request from a user device operated by the customer, reading the customer record of said customer from said database and providing it to said user device via a network;

an attribute selection unit for receiving a selection of one or more attributes from said customer record, from said user device via the network;

a virtual record generation unit for, based on the selection received from said attribute selection unit, generating a virtual record which includes said one or more attributes selected from said customer record to store said generated virtual record in said database; and

a virtual ID providing unit for providing a virtual ID for identifying said virtual record generated by said virtual record generation unit, to said user device.

- (8) The attribute information providing server according to claim 7, further comprising a virtual record referencing unit for, based on a request with said virtual ID from the attribute information receiving apparatus via a network, obtaining a corresponding virtual record from said database to provide the virtual record to the attribute information receiving apparatus.
- (9) The attribute information providing server according to claim 7, wherein said virtual record generation unit compares the attribute of said original customer record and the attribute of said generated virtual record for checking whether the attribute has not been tampered.

(10) The attribute information providing server according to claim 7, wherein said virtual ID provided by said virtual ID providing unit to said user device is an unlinkable ID to an ID of said customer record.

(11) An attribute information providing server comprising:

a record storage means for storing a record including a plurality of attributes;

virtual record storage means for storing a virtual record generated with one or more attributes selected via a network from said record stored in said record storage means; and

a virtual record disclosure means for disclosing the virtual record selected from said virtual record storage means, via the network, in a state where said virtual record disclosure means can not know which virtual record has been selected.

(12) The attribute information providing server according to claim 11, wherein said virtual record storage means stores a virtual record in association with a virtual ID as a key, and

said virtual record disclosure means receives a request with said virtual ID in a state where said virtual record disclosure means can not know which virtual ID has been selected.

(13) The attribute information providing server according to claim 11, wherein said virtual record disclosure means realizes disclosure of said virtual record by using the encrypting technique of Oblivious Transfer.

(14) A method for providing attribute information, comprising the steps of:

based on a request sent from a user device via a network, reading a record from a database storing records each of which includes

a plurality of attributes;

providing said record to said user device via the network;

receiving a selection of one or more attributes from said record, from said user device via the network;

generating a virtual record including said one or more attributes selected from said record;

storing said generated virtual record in the database; and

providing a virtual ID for identifying said stored virtual record, to said user device via the network.

- (15) The attribute information providing method according to claim 14, further comprising the steps of:
 - receiving a request with said virtual ID from the attribute information receiving apparatus via a network;
 - reading a virtual record from the database based on said request; and
 - providing said virtual record to said attribute information receiving apparatus via the network.
- (16) The attribute information providing method according to claim 14, wherein said request for referencing information is executed by using a 1-out-of-N OT (Oblivious Transfer) protocol.
- (17) The attribute information providing method according to claim 14, further comprising the step of verifying that said one or more attributes included in said virtual record stored in the database has not been tampered from the attribute information of said customer record.

(18) An attribute information providing method, comprising the steps of:

receiving a request with said virtual ID to acquire a virtual record stored in a database, said virtual record being generated by selecting one or more attributes from a customer record for each customer, and is associated with a virtual ID; and

reading said virtual record associated with said virtual ID from said database to disclose said virtual record in response to said request to acquire,

wherein during the step of receiving the request to acquire said virtual record, which virtual ID has been selected is concealed when said request to acquire is received.

(19) The attribute information providing method according to claim 18, further comprising the step of:

receiving a selection of said one or more attributes from the customer record of the customer via a computer device of the customer;

generating said virtual record having only said selected one or more attributes to store the virtual record in said database; and

providing said virtual ID for said virtual record stored in said database to said computer device.

(20) A program for causing a computer functioning as an attribute information providing server for providing attribute information via a network, to realize functions of:

based on a request via the network from a user device, reading a record from a database storing records each of which includes

a plurality of attributes;

providing said read record to said user device via the network;

receiving a selection of one or more attributes selected from said record, from said user device via the network;

generating a virtual record including said one or more attributes selected from said record;

storing said virtual record in the database; and

providing a virtual ID for identifying said virtual record, to said user device via the network.

- (21) The program according to claim 20, further causing said computer to realize the function of verifying that said one or more attributes included in said virtual record stored in the database has not been tampered from the attributes included in said record.
- (22) A program for causing a computer functioning as an attribute information providing server for providing attribute information via a network, to realize functions of:
 - storing a virtual record generated by selecting one or more attributes from a record, and associated with a virtual ID serving as a key, in a database;
 - receiving a request with said virtual ID to acquire said virtual record, in a state where which virtual ID has been selected is concealed; and
 - reading said virtual record associated with said virtual ID from said database, and disclosing said virtual record in response to said request to acquire.